REMARKS

Status of the claims -

With entry of the present amendment, claims 6 – 9, 15 – 23, 25, 26, 28, 29 and 31 – 38 are pending. Claims 1 – 5, 10 – 14, 24, 27 and 30 have been cancelled, without prejudice. Claims 32 – 38 are new. New matter has not been introduced by the new claims.

Applicants acknowledge the Examiner's indication that claims 6 – 9, 15 – 16, 25, 26 and 29 are allowed. Applicants believe that the Examiner also meant to include dependent claim 31 with the list of allowed claims. Claim 31 depends from allowed independent claim 6.

Pending claims 6 and 17 are independent claims. Claims 7 – 9, 15, 16, 25, 26, 28 and 31 – 37 depend from allowed independent claim 6. Claims 18 – 23, 29 and 38 depend from independent claim 17.

New claims 32 – 36 further define the sugar acid of independent claim 6. Claim 32 defines the sugar acid as a hexose sugar acid substituted compound having between two and four carbonyl groups; claim 33 defines the hexose sugar acid as a gluconic acid derivative; claim 34 defines the gluconic acid derivative as 2-keto-L-gulonic acid (2KLG), 2-keto-D-gluconic acid (2KDG), 5-keto-L-gluconic acid (5KLG) or 5-keto-D-gluconic acid (5KDG); claim 35 defines the sugar acid as 2, 5 diketo-gluconic acid; and claim 36 defines the sugar acid has having three carbonyl groups. Support for these claims is found for example at page 6, lines 9 – 13 of the disclosure and in the examples. Specific amino acids are recited in Claim 37, which can be used an amine source in the browning composition. Support is found at page 11, lines 2 – 8 of the disclosure.

New claim 38, which depends from independent claim 17, further defines the concentration of the browning agent to be between 0.01mM and 500 mM. Support is found at page 12, lines 1 – 3 of the disclosure.

Relection under 35 U.S.C. §102(b) -

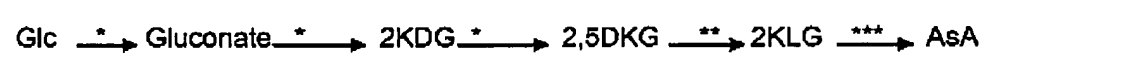
The Examiner has rejected claims 1 and 4 as being anticipated by Seaver. Claims 1 and 4 have been cancelled from the application, and therefore this rejection is rendered moot.

Rejection under 35 U.S.C. §103 -

The Examiner has rejected claims 1 and 3 – 5 as being unpatentable over Seaver. The Examiner states that solutions of carbohydrates and amino acids readily form browning compositions and that in Table 1 of the reference ascorbic acid was heated with glycine to form a browning solution. Claims 1 and 3 – 5 have been cancelled from the application, and therefore this rejection is rendered moot.

The Examiner has further rejected claims 1, 3 – 5, 10 – 14, 17 – 24, 27 and 29 – 31 as being unpatentable over Hurrell (Food Flavors) and Seaver taken together. As stated above independent claim 1 and those claims dependent thereon have been cancelled from the present application.

However, Applicants assert that independent claim 17, which is directed to a browning composition comprising 2,5DKG (and those claims dependent thereon) are patentable over the cited references. While Seaver may disclose a browning solution with ascorbic acid and glycine, there is no teaching that 2,5-diketo-gluconic acid (2,5-DKG) could be a browning agent in combination with an amino acid. The compound 2,5-DKG is disclosed in Applicants' specification as an ascorbic acid intermediate, along with 2KLG, 2KDG, 5KLG, and 5KDG. A well-known biosynthetic route to making ascorbic acid (AsA) includes the following



wherein * denotes a dehydrogenase enzyme and ** denotes a reductase enzyme. Generally the 2KLG is recovered and chemically converted to AsA (***).

As Applicants demonstrate in the examples of the instant application, not all AsA intermediates display the same degree of browning when used under similar conditions. The Examiner's attention is directed to example 1 (table 1), wherein various AsA intermediates were tested for the degree of browning:
Gluconate (GA) resulted in a degree of browning of 0;
2KDG resulted in a degree of browning of 1;
2,5-DKG resulted in a degree of browning of 10; and
2KLG resulted in a degree of browning of 1.
The degree of browning was different for the different AsA intermediates and significantly the degree of browning was only 1 for 2KLG and 10 for 2,5-DKG. The cited

prior art references are not only devoid of the teaching that 2,5DKG could be used as a browning agent, but the data presented in the instant application illustrates that 2,5DKG is a more effective browning agent than other AsA intermediates.

Applicants respectfully request the withdrawal of all pending rejections. It is asserted that pending 6 – 9, 15 – 23, 25, 26, 28, 29 and 31 – 38 are in condition for allowance and allowance is kindly requested. If in the opinion of the examiner a telephone conference would expedite the prosecution of the subject application, the examiner is encouraged to call the undersigned at (650) 846-7620.

Respectfully submitted,

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